ROS入门 21讲

4.C++/Python极简基础

主讲人：古月

VS

运行效率

开发效率

上手难度

```
hcx@hcx-vpc:~/linux$ sudo apt-get install g++
[sudo] hcx 的密码：
正在读取软件包列表... 完成
正在分析软件包的依赖关系树
正在读取状态信息... 完成
将会同时安装下列软件：
  cpp cpp-7 g++-7 gcc gcc-7 gcc-7-base gcc-8-base libasan4 libatomic1 libc-dev-bin
  libc6-dev libcc1-0 libcilkrts5 libgcc-7-dev libgcc1 libgomp1 libitm1 liblsan0
  libmpx2 libquadmath0 libstdc++-7-dev libstdc++6 libtsan0 libubsan0 linux-libc-dev
  manpages-dev
```

安装g++编译器

```
hcx@hcx-vpc:~/linux$ sudo apt-get install python
正在读取软件包列表... 完成
正在分析软件包的依赖关系树
正在读取状态信息... 完成
将会同时安装下列软件：
  libpython-stdlib libpython2.7 libpython2.7-minimal libpython2.7-stdlib python-minimal python2.7
  python2.7-minimal
```

安装Python解析器

- **for循环**

C++

```cpp
#include <iostream>

using namespace std;

int main()
{
    int a = 5;

    for(a; a<10; a++)
    {
        cout << "a = " << a << endl;
    }

    return 0;
}
```

Python

```python
for a in range(5, 10):
    if a < 10:
        print 'a = ', a
        a += 1
    else:
        break
```

```
hcx@hcx-vpc:~/linux$ g++ c++_for.cpp -o c++_for
hcx@hcx-vpc:~/linux$ ./c++_for
a = 5
a = 6
a = 7
a = 8
a = 9
hcx@hcx-vpc:~/linux$ python python_for.py
a =  5
a =  6
a =  7
a =  8
a =  9
```

C++

```cpp
#include <iostream>
using namespace std;

int main()
{
    int a = 5;

    while(a < 10)
    {
        cout << "a = "  << a << endl;
        a++;
    }

    return 0;
}
```

Python

```python
a = 5

while a < 10:
    print 'a = ', a
    a += 1
```

```
hcx@hcx-vpc:~/linux$ g++ c++_while.cpp -o c++_while
hcx@hcx-vpc:~/linux$ ./c++_while
a = 5
a = 6
a = 7
a = 8
a = 9
hcx@hcx-vpc:~/linux$ python python_while.py
a =  5
a =  6
a =  7
a =  8
a =  9
```

C++

```cpp
#include <iostream>

class A
{
public:
    int i;
    void test()
    {
        std::cout << i << std::endl;
    }
};

int main()
{
    A a;

    a.i = 10;
    a.test();

    return 0;
}
```

Python

```python
class A:
    i = 10
    def test(self):
        print self.i

a = A()
a.test()
```
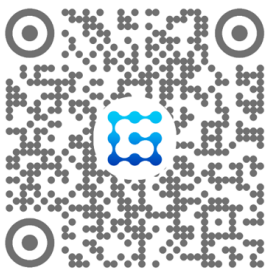
```
hcx@hcx-vpc:~/linux$ g++ c++_class.cpp -o c++_class
hcx@hcx-vpc:~/linux$ ./c++_class
10
hcx@hcx-vpc:~/linux$ python python_class.py
10
```

感谢观看

怕什么真理无穷，进一寸有一寸的欢喜

更多精彩，欢迎关注

古月居

古月学院

ROS入门
21讲